

CR-134125

SOUTHWEST RESEARCH INSTITUTE
8500 Culebra Road, San Antonio, Texas 78284

Department of Electronic Systems Research

DOCUMENT NO. ETP-1

ENGINEERING TEST PROCEDURE
FOR THE
PATIENT ASSIST DEVICE

N74-11996

(NASA-CR-134125) ENGINEERING TEST
PROCEDURE FOR THE PATIENT ASSIST DEVICE
(Southwest Research Inst.) 28 p HC

CSSL 09A

G3/09

Unclass
22859

Contract No. NAS9-13582

SwRI Project No. 13-3702-001



Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA, 22151

PRICES SUBJECT TO CHANGE

ENGINEERING TEST PROCEDURE
FOR THE
PATIENT ASSIST DEVICE

Contract No. NAS9-13582

SwRI Project No. 13-3702-001

APPROVALS

Prepared by: Melvin G. Schroder Date: 19 October 1973

Approved: W. Haskell Zimmerman Date: 24 October 1973
for Director, Department of Bioengineering

Approved: Philip J. Tennyson Date: 24 October 1973
Manager, Medical Instrumentation Research

SOUTHWEST RESEARCH INSTITUTE
8500 Culebra Road, San Antonio, Texas 78284

Department of Electronic Systems Research

CHANGE LOG

[illegible]

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. TEST PROCEDURES	3
III. SUMMARY	24

ACCEPTANCE TEST PLAN FOR PATIENT ASSIST DEVICE

I. INTRODUCTION

The Patient Assist Device will be tested with the aid of a Load Test Board which contains ten 100-watt lamps, each of which is in a separate circuit. Each lamp is labeled according to the number of the power channel to which it is connected.

Single-pole, single-throw momentary action toggle switches will be used for patient actuation during testing. Three such switches are required for Patient Assist Device control. One is labeled "ADDRESS" and is activated to sequentially select power channels in ascending or descending numeric order. The "count up" or "count down" mode of successive channel selection is determined by the "DIRECTION" switch. This patient switch is activated to reverse the direction of count.

The third patient switch is activated to switch the power "on" or "off" in an addressed channel. The switch is labeled "POWER".

During testing, each lamp on the Load Test Board will be plugged into the correspondingly labeled AC socket on the rear panel of the Patient Assist Device.

The "POWER" push button switch on the front panel of the Patient Assist Device is depressed to turn "ON" power to the device. The push button lens includes hidden legend "ON" which is visible when "POWER" is supplied to the unit. Depressing this "POWER" switch resets the logic circuitry in the device such that no connected load (in this case, on the Load Test Board) is supplied power, channel "1" is addressed and "COUNT UP" is the selected numeric sequence.

Each power channel controlled by the Patient Assist Device is denoted by a separate button indicator on the front panel of the Patient Assist Device. Indicator lenses are labeled with the applicable channel number. When a channel is addressed, its indicator lens is lighted. Below each channel indicator is another button indicator with a hidden legend "ON". The legend is visible and the lens of this indicator is lighted when power is supplied to an electrical load in the applicable power channel.

Thus when the "POWER" push button is depressed, the channel "1" indicator is lighted since the unit logic is reset to address channel "1". All other channel indicators are not lighted and power is not supplied to any of the ten possible lamp loads.

No "ON" legends are visible beneath the channel designations on the front panel.

The "COUNT UP" legend is visible and the "COUNT DOWN" legend is hidden to indicate the initial numeric address sequence.

The remaining front panel indicator is a push button indicator with a visible legend "CLEAR". The lens of this indicator is momentarily lighted when the Patient Assist Device logic is reset either by depressing the "POWER" button to switch "ON" power to the device or by depressing the "CLEAR" button.

The test procedure presented in the attached form permits a complete functional testing of the Patient Assist Device by activation of patient switches and observation of front panel indicators on the device and load lamps on the Load Test Board.

II. TEST PROCEDURES

1. Connect power to the Patient Assist Device.
2. Depress "POWER" push button to switch "ON" DC power to the logic section and indicator lamps of the Patient Assist Device.

The "ON" legend located under the "POWER" legend is visible when the power is supplied to the Patient Assist Device. _____

The "CLEAR" lens is momentarily lighted when the "POWER" switch is depressed. _____

The "COUNT UP" legend is visible. _____

The "1" channel is addressed as denoted by the lighted lens with legend "1". _____

No other lenses are lighted on the front panel of the unit. _____

NOTE: The following tests are performed by operating appropriate patient switches. When operating these switches, care must be taken to release a switch within a second of time following the initial contact with the switch. This time period may be adjusted differently to suit patient requirements. However, the one second period is normally preferred.

If the switch is not released during the one second time period, undesired results may occur upon release since switch chatter may retrigger the switch logic. The purpose of the one second time period is to permit switch release without retriggering the switch logic.

Also, no switch should be reactivated within a one-second period from a previous switch activation.

These criteria do not reflect a design deficiency of the Patient Assist Device. On the contrary, they are designed to meet the capabilities of a patient.

3. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "1".

The "ON" legend of a lens directly under the lens labeled "1" is visible and that lens is lighted. _____

The load lamp labeled "1" on the Load Test Board is lighted. _____

4. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "1".

The "ON" legend under the lens labeled "1" is hidden and that lens is not lighted. _____

- The load lamp labeled "1" on the Load Test Board is not lighted. _____
5. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "2" .
- The "2" channel is addressed as denoted by the lighted lens labeled "2" . _____
6. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "2" .
- The "ON" legend of a lens directly under the lens labeled "2" is visible and that lens is lighted. _____
- The load lamp labeled "2" on the Load Test Board is lighted. _____
7. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "2" .
- The "ON" legend under the lens labeled "2" is hidden and that lens is not lighted. _____
- The load lamp labeled "2" on the Load Test Board is not lighted. _____
8. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "3" .
- The "3" channel is addressed as denoted by the lighted lens labeled "3" . _____
9. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "3" .
- The "ON" legend of a lens directly under the lens labeled "3" is visible and that lens is lighted. _____
- The load lamp labeled "3" on the Load Test Board is lighted. _____
10. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "3" .
- The "ON" legend under the lens labeled "3" is hidden and that lens is not lighted. _____
- The load lamp labeled "3" on the Load Test Board is not lighted. _____

11. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "4" .

The "4" channel is addressed as denoted by the lighted lens labeled "4" . _____

12. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "4" .

The "ON" legend of a lens directly under the lens labeled "4" is visible and that lens is lighted. _____

The load lamp labeled "4" on the Load Test Board is lighted. _____

13. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "4" .

The "ON" legend under the lens labeled "4" is hidden and that lens is not lighted. _____

The load lamp labeled "4" on the Load Test Board is not lighted. _____

14. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "5" .

The "5" channel is addressed as denoted by the lighted lens labeled "5" . _____

15. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "5" .

The "ON" legend of a lens directly under the lens labeled "5" is visible and that lens is lighted. _____

The load lamp labeled "5" on the Load Test Board is lighted. _____

16. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "5" .

The "ON" legend under the lens labeled "5" is hidden and that lens is not lighted. _____

The load lamp labeled "5" on the Load Test Board is not lighted. _____

17. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "6" .

The "6" channel is addressed as denoted by the lighted lens labeled "6" . _____

18. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "6" .

The "ON" legend of a lens directly under the lens labeled "6" is visible and that lens is lighted. _____

The load lamp labeled "6" on the Load Test Board is lighted. _____

19. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "6" .

The "ON" legend under the lens labeled "6" is hidden and that lens is not lighted. _____

The load lamp labeled "6" on the Load Test Board is not lighted. _____

20. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "7" .

The "7" channel is addressed as denoted by the lighted lens labeled "7" . _____

21. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "7" .

The "ON" legend of a lens directly under the lens labeled "7" is visible and that lens is lighted. _____

The load lamp labeled "7" on the Load Test Board is lighted. _____

22. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "7" .

The "ON" legend under the lens labeled "7" is hidden and that lens is not lighted. _____

The load lamp labeled "7" on the Load Test Board is not lighted. _____

23. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "8" .

The "8" channel is addressed as denoted by the lighted lens labeled "8" . _____

24. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "8" .

The "ON" legend of a lens directly under the lens labeled "8" is visible and that lens is lighted. _____

The load lamp labeled "8" on the Load Test Board is lighted. _____

25. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "8" .

The "ON" legend under the lens labeled "8" is hidden and that lens is not lighted. _____

The load lamp labeled "8" on the Load Test Board is not lighted. _____

26. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "9" .

The "9" channel is addressed as denoted by the lighted lens labeled "9" . _____

27. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "9" .

The "ON" legend of a lens directly under the lens labeled "9" is visible and that lens is lighted. _____

The load lamp labeled "9" on the Load Test Board is lighted. _____

28. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "9" .

The "ON" legend under the lens labeled "9" is hidden and that lens is not lighted. _____

The load lamp labeled "9" on the Load Test Board is not lighted. _____

29. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "10".

The "10" channel is addressed as denoted by the lighted lens labeled "10". _____

30. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "10".

The "ON" legend of a lens directly under the lens labeled "10" is visible and that lens is lighted. _____

The load lamp labeled "10" on the Load Test Board is lighted. _____

31. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "10".

The "ON" legend under the lens labeled "10" is hidden and that lens is not lighted. _____

The load lamp labeled "10" on the Load Test Board is not lighted. _____

32. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "1".

The "1" channel is addressed as denoted by the lighted lens labeled "1". _____

33. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "1".

The "ON" legend of a lens directly under the lens labeled "1" is visible and that lens is lighted. _____

The load lamp labeled "1" on the Load Test Board is lighted. _____

34. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "1".

The "ON" legend under the lens labeled "1" is hidden and that lens is not lighted. _____

The load lamp labeled "1" on the Load Test Board is not lighted. _____

35. Activate the patient "DIRECTION" switch to switch the sequence of addresses to a "COUNT DOWN" mode.

The "COUNT DOWN" legend is visible. _____

The "1" channel remains addressed as denoted by the lighted lens with legend "1". _____

36. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "10".

The "10" channel is addressed as denoted by the lighted lens labeled "10". _____

37. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "10". _____

The "ON" legend of a lens directly under the lens labeled "10" is visible and that lens is lighted. _____

The load lamp labeled "10" on the Load Test Board is lighted. _____

38. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "10".

The "ON" legend under the lens labeled "10" is hidden and that lens is not lighted. _____

The load lamp labeled "10" on the Load Test Board is not lighted. _____

39. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in channel "9".

The "9" channel is addressed as denoted by the lighted lens labeled "9". _____

40. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "9".

The "ON" legend of a lens directly under the lens labeled "9" is visible and that lens is lighted. _____

The load lamp labeled "9" on the Load Test Board is lighted. _____

41. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "9".

The "ON" legend under the lens labeled "9 " is hidden and that lens is not lighted. _____

The load lamp labeled "9 " on the Load Test Board is not lighted.

42. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "8 ".

The "8 " channel is addressed as denoted by the lighted lens labeled "8 ". _____

43. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "8 ".

The "ON" legend of a lens directly under the lens labeled "8 " is visible and that lens is lighted. _____

The load lamp labeled "8 " on the Load Test Board is lighted. _____

44. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "8 ".

The "ON" legend under the lens labeled "8 " is hidden and that lens is not lighted. _____

The load lamp labeled "8 " on the Load Test Board is not lighted. _____

45. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "7 ".

The "7 " channel is addressed as denoted by the lighted lens labeled "7 ". _____

46. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "7 ".

The "ON" legend of a lens directly under the lens labeled "7 " is visible and that lens is lighted. _____

The load lamp labeled "7 " on the Load Test Board is lighted. _____

47. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "7 ".

The "ON" legend under the lens labeled " 7 " is hidden and that lens is not lighted. _____

The load lamp labeled " 7 " on the Load Test Board is not lighted.

48. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel " 6 ".

The " 6 " channel is addressed as denoted by the lighted lens labeled " 6 ". _____

49. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel " 6 ".

The "ON" legend of a lens directly under the lens labeled " 6 " is visible and that lens is lighted. _____

The load lamp labeled " 6 " on the Load Test Board is lighted. _____

50. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel " 6 ".

The "ON" legend under the lens labeled " 6 " is hidden and that lens is not lighted. _____

The load lamp labeled " 6 " on the Load Test Board is not lighted. _____

51. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel " 5 ".

The " 5 " channel is addressed as denoted by the lighted lens labeled " 5 ". _____

52. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel " 5 ".

The "ON" legend of a lens directly under the lens labeled " 5 " is visible and that lens is lighted. _____

The load lamp labeled " 5 " on the Load Test Board is lighted. _____

53. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel " 5 ".

The "ON" legend under the lens labeled " 5 " is hidden and that lens is not lighted. _____

The load lamp labeled " 5 " on the Load Test Board is not lighted.

54. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel " 4 ".

The " 4 " channel is addressed as denoted by the lighted lens labeled " 4 ". _____

55. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel " 4 ".

The "ON" legend of a lens directly under the lens labeled " 4 " is visible and that lens is lighted. _____

The load lamp labeled " 4 " on the Load Test Board is lighted. _____

56. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel " 4 ".

The "ON" legend under the lens labeled " 4 " is hidden and that lens is not lighted. _____

The load lamp labeled " 4 " on the Load Test Board is not lighted. _____

57. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel " 3 ".

The " 3 " channel is addressed as denoted by the lighted lens labeled " 3 ". _____

58. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel " 3 ".

The "ON" legend of a lens directly under the lens labeled " 3 " is visible and that lens is lighted. _____

The load lamp labeled " 3 " on the Load Test Board is lighted. _____

59. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel " 3 ".

The "ON" legend under the lens labeled "3" is hidden and that lens is not lighted. _____

The load lamp labeled "3" on the Load Test Board is not lighted.

60. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "2".

The "2" channel is addressed as denoted by the lighted lens labeled "2". _____

61. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "2".

The "ON" legend of a lens directly under the lens labeled "2" is visible and that lens is lighted. _____

The load lamp labeled "2" on the Load Test Board is lighted. _____

62. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "2".

The "ON" legend under the lens labeled "2" is hidden and that lens is not lighted. _____

The load lamp labeled "2" on the Load Test Board is not lighted. _____

63. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "1".

The "1" channel is addressed as denoted by the lighted lens labeled "1". _____

64. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "1".

The "ON" legend of a lens directly under the lens labeled "1" is visible and that lens is lighted. _____

The load lamp labeled "1" on the Load Test Board is lighted. _____

65. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "2".

The "2" channel is addressed as denoted by the lighted lens labeled "2". _____

66. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "3".

The "3" channel is addressed as denoted by the lighted lens labeled "3". _____

67. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "3".

The "ON" legends of lenses associated with Channels "1" and "3" are visible and those lenses are lighted. _____

The load lamps labeled "1" and "3" on the Load Test Board are lighted. _____

68. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "4".

The "4" channel is addressed as denoted by the lighted lens labeled "4". _____

69. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "5".

The "5" channel is addressed as denoted by the lighted lens labeled "5". _____

70. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "5".

The "ON" legends of lenses associated with channels "1", "3", and "5" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", and "5" on the Load Test Board are lighted. _____

71. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "6".

The "6" channel is addressed as denoted by the lighted lens labeled "6". _____

72. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "7".

The "7" channel is addressed as denoted by the lighted lens labeled "7". _____

73. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "7".

The "ON" legends of lenses associated with Channels "1", "3", "5", and "7" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5" and "7" on the Load Test Board are lighted. _____

74. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "8".

The "8" channel is addressed as denoted by the lighted lens labeled "8". _____

75. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "9".

The "9" channel is addressed as denoted by the lighted lens labeled "9". _____

76. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "9".

The "ON" legends of lenses associated with Channels "1", "3", "5", "7", and "9" are visible and those lenses are lighted.

The load lamps labeled "1", "3", "5", "7", and "9" on the Load Test Board are lighted. _____

77. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "10".
The "10" channel is addressed as denoted by the lighted lens labeled "10". _____
78. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "1".
The "1" channel is addressed as denoted by the lighted lens labeled "1". _____
79. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "1".
The "ON" legends of lenses associated with Channels "3", "5", "7", and "9" are lighted. _____
The load lamps labeled "3", "5", "7", and "9" on the Load Test Board are lighted.
80. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "2".
The "2" channel is addressed as denoted by the lighted lens labeled "2". _____
81. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "2".
The "ON" legends of lenses associated with Channels "2", "3", "5", "7", and "9" are visible and those lenses are lighted. _____
The load lamps labeled "2", "3", "5", "7" and "9" on the Load Test Board are lighted. _____
82. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "3".
The "3" channel is addressed as denoted by the lighted lens labeled "3". _____
83. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "3".

The "ON" legends of lenses associated with Channels "2", "5", "7", and "9" are visible and those lenses are lighted. _____

The load lamps labeled "2", "5", "7", and "9" on the Load Test Board are lighted. _____

84. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "4".

The "4" channel is addressed as denoted by the lighted lens labeled "4". _____

85. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "4".

The "ON" legends of lenses associated with Channels "2", "4", "5", "7", and "9" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "5", "7" and "9" on the Load Test Board are lighted. _____

86. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "5".

The "5" channel is addressed as denoted by the lighted lens labeled "5". _____

87. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "5".

The "ON" legends of lenses associated with Channels "2", "4", "7" and "9" are visible and those lenses are lighted.

The load lamps labeled "2", "4", "7" and "9" on the Load Test Board are lighted. _____

88. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "6". _____

The "6" channel is addressed as denoted by the lighted lens labeled "6". _____

89. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "6".

The "ON" legends of lenses associated with Channels "2", "4", "6", "7", and "9" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "6", "7", and "9" on the Load Test Board are lighted. _____

90. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "7".

The "7" channel is addressed as denoted by the lighted lens labeled "7". _____

91. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "7".

The "ON" legends of lenses associated with Channels "2", "4", "6" and "9" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "6" and "9" on the Load Test Board are lighted.

92. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "8".

The "8" channel is addressed as denoted by the lighted lens labeled "8". _____

93. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "8".

The "ON" legends of lenses associated with Channels "2", "4", "6", "8" and "9" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "6", "8" and "9" on the Load Test Board are lighted. _____

94. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "9".

The "9" channel is addressed as denoted by the lighted lens labeled "9". _____

95. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "9".

The "ON" legends of lenses associated with Channels "2", "4", "6", and "8" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "6", and "8" on the Load Test Board are lighted. _____

96. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "10".

The "10" channel is addressed as denoted by the lighted lens labeled "10". _____

97. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "10".

The "ON" legends of lenses associated with Channels "2", "4", "6", "8", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "2", "4", "6", "8", and "10" on the Load Test Board are lighted. _____

98. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "1".

The "1" channel is addressed as denoted by the lighted lens labeled "1". _____

99. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "1".

The "ON" legends of lenses associated with Channels "1", "2", "4", "6", "8" and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "2", "4", "6", "8", and "10" on the Load Test Board are lighted. _____

100. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "2".

The "2" channel is addressed as denoted by the lighted lens labeled "2". _____

101. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "2".

The "ON" legends of lenses associated with Channels "1", "4", "6", "8", and "10" are visible and these lenses are lighted. _____

The load lamps labeled "1", "4", "6", "8", and "10" on the Load Test Board are lighted. _____

102. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "3".

The "3" channel is addressed as denoted by the lighted lens labeled "3". _____

103. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "3".

The "ON" legends of lenses associated with Channels "1", "3", "4", "6", "8", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "4", "6", "8", and "10" on the Load Test Board are lighted. _____

104. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "4".

The "4" channel is addressed as denoted by the lighted lens labeled "4". _____

105. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "4".

The "ON" legends of lenses associated with Channels "1", "3", "6", "8", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "6", "8", and "10" on the Load Test Board are lighted. _____

106. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "5".

The "5" channel is addressed as denoted by the lighted lens labeled "5". _____

107. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "5".

The "ON" legends of lenses associated with Channels "1", "3", "5", "6", "8" and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "6", "8", and "10" on the Load Test Board are lighted. _____

108. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "6".

The "6" channel is addressed as denoted by the lighted lens labeled "6". _____

109. Activate the patient "POWER" switch to switch power "off" to the electrical load in channel "6".

The "ON" legends of lenses associated with Channels "1", "3", "5", "8", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "8", and "10" on the Load Test Board are lighted. _____

110. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "7".

The "7" channel is addressed as denoted by the lighted lens labeled "7". _____

111. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "7".

The "ON" legends of lenses associated with Channels "1", "3", "5", "7", "8" and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "7", "8", and "10" on the Load Test Board are lighted. _____

112. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "8".

The "8" channel is addressed as denoted by the lighted lens labeled "8". _____

113. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "8".

The "ON" legends of lenses associated with Channels "1", "3", "5", "7", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "7", and "10" on the Load Test Board are lighted. _____

114. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "9".

The "9" channel is addressed as denoted by the lighted lens labeled "9". _____

115. Activate the patient "POWER" switch to switch power "ON" to the electrical load in Channel "9".

The "ON" legends of lenses associated with Channels "1", "3", "5", "7", "9", and "10" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "7", "9", and "10" on the Load Test Board are lighted. _____

116. Activate the patient "ADDRESS" switch to acquire control of power supplied to the electrical load in Channel "10".

The "10" channel is addressed as denoted by the lighted lens labeled "10". _____

117. Activate the patient "POWER" switch to switch power "off" to the electrical load in Channel "10".

The "ON" legends of lenses associated with Channels "1", "3", "5", "7", and "9" are visible and those lenses are lighted. _____

The load lamps labeled "1", "3", "5", "7", and "9" on the Load Test Board are lighted. _____

118. Activate the patient "DIRECTION" switch to change the addressing sequence to a "COUNT DOWN" mode.

The "COUNT DOWN" legend is visible. _____

119. Depress the "CLEAR" push button on the front panel of the Patient Assist Device.

The "CLEAR" lens is momentarily lighted when the push button is initially depressed. _____

The "COUNT UP" legend is visible. _____

The "1" channel is addressed as denoted by the lighted lens with legend "1". _____

All "ON" legends directly under numerically labeled lenses are hidden. _____

No load lamps on the Load Test Board are lighted. _____

III. SUMMARY

The test procedure presented in this document completely tests the functioning of the Patient Assist Device. All modes of operation are included in the test.

Patient activated switches may be chosen for use with this device as desired. These switches, however, must be single-pole, single-throw, momentarily-on switches.